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ABSTRACT

A method for controlling a polar coordinate stage moves an object relative to an imaging system. While moving the object, the image of the object is rotated to compensate for rotation of the object. Accordingly, the orientations of features in the image are preserved, and removal of apparent rotation in the image reduces confusion an operator experiences while directing movement of the object. The angular velocity of the motion of the object is controlled so that image shift speed is independent of the radial position of the point being viewed. Use of a polar stage, reduces the required foot print for a stage and facilitates prealignment. In particular, an edge detector measures the position of the edge of the object while the polar coordinate stage rotates the object. A prealignment process determines the position and orientation of the object from the measured edge positions. A further alignment process uses automated pattern recognition which more easily identifies features on the object when the image is rotated so that the orientations of the feature are approximately known.